

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region I - EPA New England

Drafted: August 31, 2015
Finalized: September 2, 2015

SUBJECT: CAA Partial Compliance Evaluation of Saint Gobain Performance Plastics Corp.
Merrimack, New Hampshire

FROM: Steven Calder, Environmental Engineer, Air Technical Unit

THRU: Christine Sansevero, Senior Enforcement Coordinator, Air Technical Unit

TO: File

I Facility Information

A. Facility Name: Saint-Gobain Performance Plastics Corp. ("SGPP")
B. Facility Location: 701 Daniel Webster Highway
Merrimack, NH 03054

C. Facility Mailing Address: Same

D. Facility Contacts: 1. Kimberly Weeks, EHS Engineer
Phone: (603)424-9000, direct 420-1297
Cell: (603)203-6075
Email: kimberly.weeks@saint-gobain.com
2. Gwenael Busnel, Plant Manager
Phone: (603)420-1267
Cell: (603)204-3837
Email: gwenael.busnel@saint-gobain.com
3. Chris Gilman, Facilities Engineering Manager
Phone: (603)420-1486
Cell: (603)320-4652
Email: christopher.gilman@saint-gobain.com
4. Steven Donahoe, Facilities Engineer
Email: steven.donahoe@saint-gobain.com

E. Type of Source: Synthetic Minor

F. Permit Number: SP-0072

G. Facility ID: 3301100165

H. NAICS #: 313320 Fabric Coating Mills

II Background Information

A. Date of Inspection: May 13, 2015

B. Weather Conditions: Partly Cloudy; mid-60s degrees Fahrenheit

C. US EPA Representative(s): Steven Calder

D. State Representative(s): None

E. Federally Enforceable Requirements Covered During the Inspection:

- 40 CFR Part 60, Subpart VVV, Standards of Performance for Polymeric Coating of Supporting Substrates Facilities (Polymeric Coating NSPS)
- 40 CFR Part 63, Subpart VVVVVV (6V), Miscellaneous Chemical Manufacturing (Chemical NESHAP)
- 40 CFR Part 63, Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers (Boiler NESHAP)
- 40 CFR Part 63, Subpart ZZZZ, National Emission standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHAP)
- New Hampshire Air Quality Regulations as applicable.

F. Previous Enforcement Actions: None Known

III Purpose of Inspection

The purpose of this inspection was to evaluate the facility's compliance with applicable Clean Air Act regulations.

IV Facility Description

A. Company/Facility History:

The SGPP produces Teflon coated fiberglass textile. St. Gobain Performance Plastics designs and manufactures high-strength flexible composites for extreme environments. The proprietary composites are developed and marketed for industrial, communications, life-safety, chemical processing, military, aerospace, and other applications. SGPP first twists and weaves the glass fibers to make fiberglass cloth of varying widths. The cloth is then coated multiple times to form a fluoropolymer composite fabrics. These fabrics are used in a variety of contexts including for domes at sport venues and satellite installations. Chemfab was the former owner and operator of the facility. SGPP purchased Chemfab and its product's in 2009 according to Mr. Gilman. SGPP is a subsidiary of Saint-Gobain Corporation.

B. Contact Name and Mailing Address:

Kimberly Weeks, EHS Engineer, is the contact person for this facility. The contact information is set above in the Facility Information section.

C. Working Hours:

The facility operates 3 shifts a day five days a week and approximately 20% of time 7 days a week. Shifts are typically 8 hours. SGPP currently employs 262 employees.

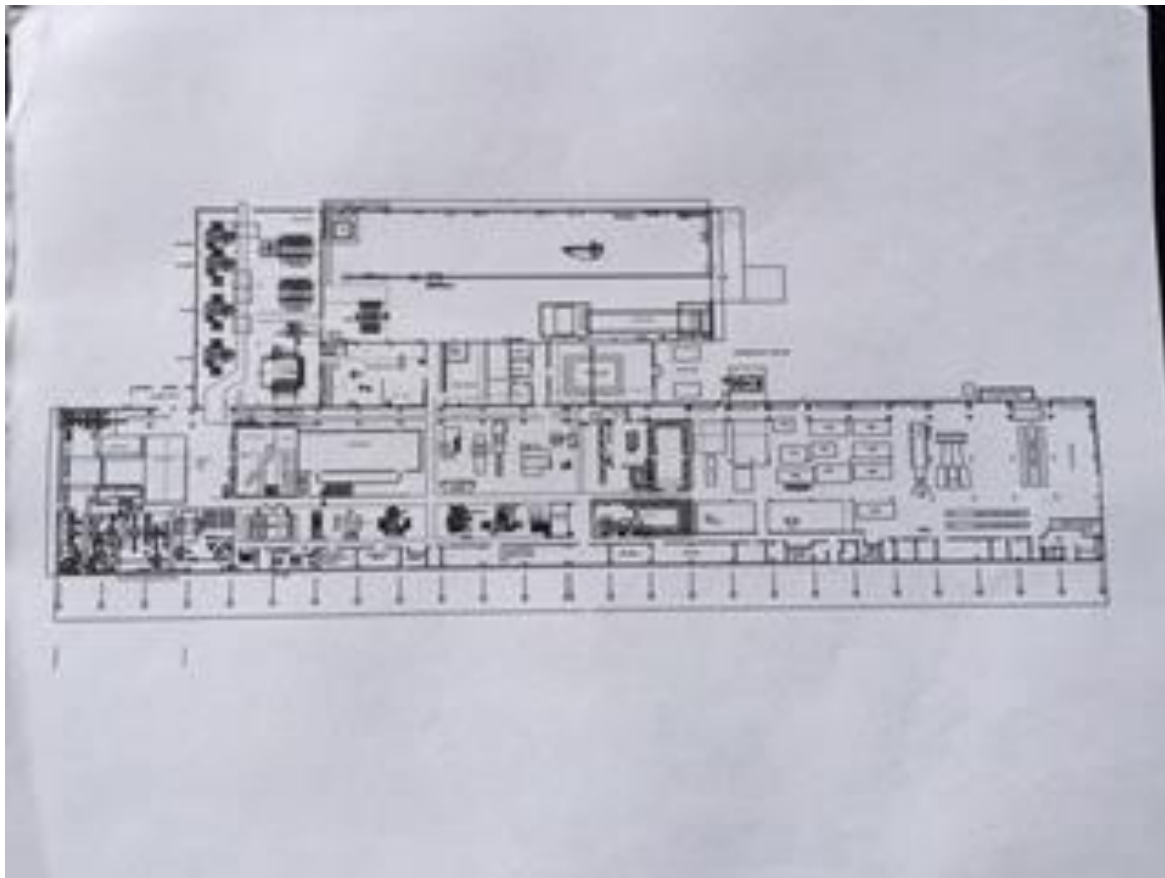
D. Facility Description:

Site Overview



SGPP operates in a 3-floor 225,000 square feet building on a 20 acre site. The production area is on the 1st floor with offices and laboratories located on the 2nd and 3rd floors. The facility is located adjacent to the Merrimack River on the southeast-side of the property. The facility is located in a commercial area. A railroad is located between the building and the river on the southeast-side. A residential neighborhood is located approximately 1200 feet away.

Facility Site Plan
First Floor Production Area



V Inspection

A. Entry

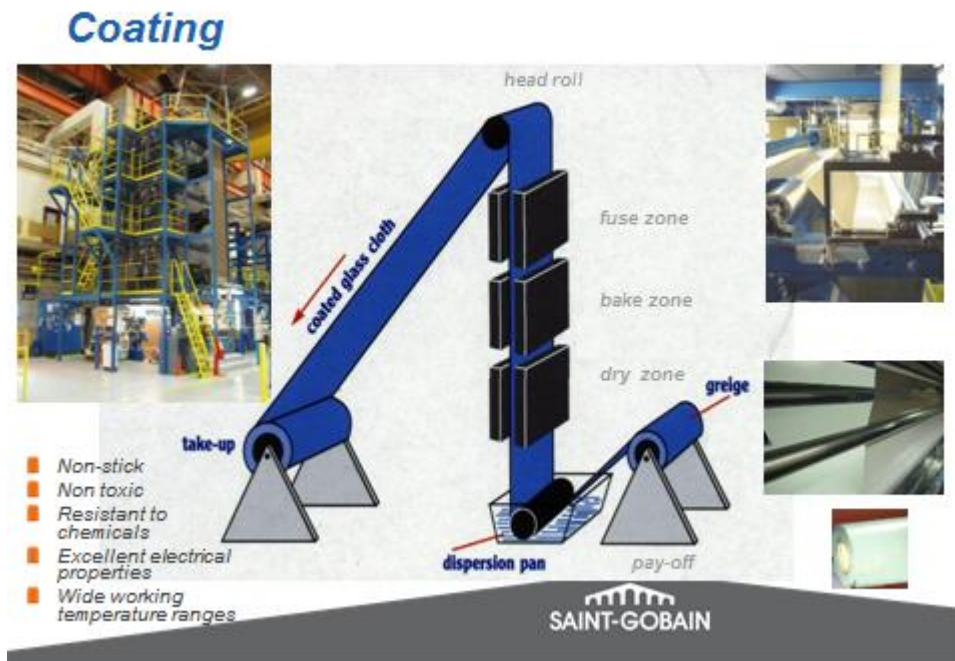
EPA inspector, Steven Calder (Inspector), arrived at the facility at approximately 9:30 am. The Inspector entered the facility and was met by Mr. Gilman. The Inspector was led to a conference room where he met with facility personnel including Ms. Weeks, EHS Engineer, Mr. Busnel, Plant Manager, Mr. Gilman, Facilities Engineering Manager, and Mr. Donahoe, Facilities Engineering. The Inspector showed Mr. Busnel and Mr. Gilman his credentials and Mr. Gilman was provided a copy of the EPA Small Business Information Sheet.

B. Opening Conference

The Inspector indicated that the purpose of the visit was to conduct a CAA inspection with an emphasis on emissions the Chemical NESHAP, the Boiler NESHAP and RICE NESHAP. The Inspector explained that the inspection would include an opening conference, a plant walkthrough, a records review, and a closing conference. Mr. Busnel explained the manufacturing processes associated with coating fabric (Teflon on fiberglass) to produce a heavy architectural fabric (water impermeable tarp).

First the facility weaves fiberglass fabrics. The fabrics are then coated with a Teflon liquid. The liquid consists of an aqueous dispersion of approximately 50% of PTFE (polytetrafluoroethylene), 5 to 10% surfactant, water, toluene, thermoset chemicals such as FEP (fluorinated ethylene propylene) and PFA (perfluoroether) and other chemicals. The facility plans to replace the toluene and ethylene glycol with glycerin by the end of the year even though data from a similar facility shows that the toluene being emitted from the ovens is below detection limits. This is most likely due to the high oven temperatures.

The woven fiberglass is unrolled in a fabric coating machine. It is then dipped into a coating tank, vertically raised and thermo set and dried in three natural gas-fired oven zones. The first zone is called the fusing zone with a temperature of 500 to 550°F. The next zone is the baking zone. The final zone is the drying zone with a temperature of 1,250°F. Below is a pictorial of the coating process.



The final product is sometimes coated with a surfactant or other dispersions. Toluene is used as an organic disperser for silicone in coating. Some products take up to 17 coating

dips. Some products are cut and manufactured onsite into architectural products.

The facility maintains two diesel-fired fire pumps and one new natural gas back-up generator. Additionally the facility has one diesel-fired boiler and one natural gas-fired boiler.

C. Plant Walk-through:

After the Opening Conference, the Inspector asked to walk through the facility and visit areas where air pollutants could be emitted including the boilers, generators, and processing equipment.

Pump House

The Inspector was led to a remote building referred to as the Pump House.

Fire Pumps

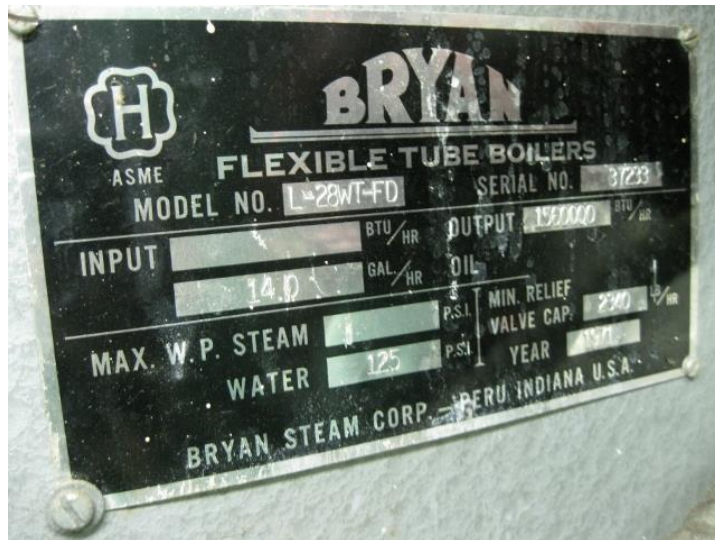
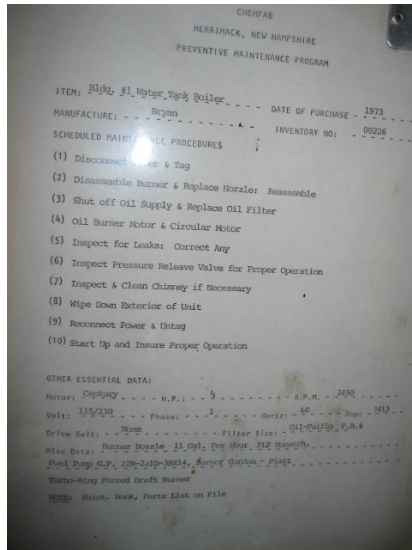


Inside the Pump House were two diesel-fire pumps that only operate if a fire occurred in the plant. The 160 horsepower (1.10 MMBtu/hr) pumps burned #2 fuel oil at a rate of 8.0 gal/hr. The operating hour meter on one of the pumps read 469 hours.

Bryan Hot Water Heater



PM Program and Manufacturer's Plate



Additionally, inside the Pump House was a hot water heater with a capacity 225 horsepower (1.56 MMBtu/hr) that also burns diesel fuel. The Bryan burner model number is L-28WT-FT. The hot water is used to circulate the water in the winter to the water storage tank maintained for plant water and fire emergencies. The facility is currently installing a freshwater line from the town into the plant that would make the tank and heater obsolete. The facility plans to take the hot water heater out of commission by the end of the year. The Inspector suggested that the facility amend its permit to exclude the hot water tank when it is taken out of commission. Next to the Bryon burner was a Preventive Maintenance Program (see above).

Diesel Fuel Storage Tanks



Diesel storage tanks were maintained in the Pump House for the Fire Pumps and Hot Water Heater.

Building Utilities

Process Steam Boiler



The facility operates a 20 HP natural gas boiler that produced process steam and heat for office space.

Natural Gas Generator



Recently, the facility installed a new 35 kW natural gas emergency generator made by Milbank. The generator will be used during power loss situations and will provide power for the

information systems and office lighting.

Manufacturing processes

Weaving Fiberglass



The facility begins by producing a fiberglass textile from fiberglass thread. The resultant textile is then coated with a Teflon liquid.

Teflon Coating Room

Teflon Coating Room



Coating Machines

Teflon Coating Machines



Teflon is coated on to the fiberglass textile (fabric) at different thicknesses and grades on 13 different coating machines. Approximately four coating machines share the same stack.

Coating Machine Stacks



The inspector did not observe any significant opacity emanating from the stacks during the inspection. Clouds can be observed in the background of the stacks in the photo above.

D. Record Review:

NH DES Permit

The synthetic minor permit recently reissued by the NH DES limits the VOCs to less than 50 tons per year and 10 tons for any one HAP and 25 tons for all combined HAPs. The permit states the facility is subject to the Polymeric Coating NSPS. The permit requires the facility to annually report its VOC emissions to EPA and NH DES.

VOC and HAP Emissions

Below is a summary of the VOC and HAP emissions at the facility for the past 3 years:

Year/Emissions	VOCs Tons/year	Total HAPs Tons/year	Single HAP Tons/year Ethylene glycol
2014	19.8	2.0	1.1
2013	20.9	1.8	1.2
2012	21.1	4.6	2.8

Ethylene glycol and toluene are the two HAPs used by the facility. However, Mr. Gilman explained that these two HAPs are being phased out. By the end of the year, all the coatings currently in inventory will be used up. The facility will be changing over to glycerin-based solvents to reduce the HAP emissions.

State Enforcement Files

In 2008, the NH DES sent a Letter of Deficiency to the facility for failing to maintain proper records and provide NH DES and EPA with proper reports on its emissions including failing to keep records of semiannual estimates or actual 12-month VOC use as required by the Polymeric Coating NSPS.

EPA Notifications

Records show that the facility submitted an Initial Notification under the Boiler NESHAP for the pump house water heater. The notification was submitted to EPA on 8/22/2011. According to Mr. Gilman, the facility does not use any of the HAPs listed in the Chemical NESHAP.

E. Multi-Media Checklist

The Inspector filled out a Multi-Media Checklist and did not note any areas of concern.

F. Closing Conference:

During the closing conference, the Inspector met with Ms. Weeks, Mr. Busnel, Mr. Gilman, and Mr. Donahoe.

The Inspector asked for Safety Data Sheets (SDS) for the products used in some of formulations such as emulsion 4327 and 4328 to confirm the speciation of the VOC and HAP emissions reported.

The boiler used for process steam uses natural gas.

The new generator uses natural gas and is likely subject to the NSPS requirements for new engines.

Ms. Weeks was designated as the facility contact for future correspondences.

The Inspector thanked Ms. Weeks, Mr. Busnel, Mr. Gilman, and Mr. Donahoe for their time.